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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,617	07/15/2003	Seigo Nakao	57454-969	5368

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Washington, DC 20005-3096

EXAMINER
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TRAN, KHANH C

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/618,617	NAKAO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Khanh Tran	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,9,10,15 and 18-26 is/are rejected.
- 7) ☒ Claim(s) 2-5,7,8,11-14,16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claim 19 is rejected under 35 U.S.C. 101 because the claimed subject matter "A radio reception program" is a nonstatutory claimed subject matter.

The claimed invention is directed to non-statutory subject matter. See MPEP 2106 under headings "Nonstatutory Subject Matter". According to MPEP guidelines,

"Functional descriptive material" consists of data structures and computer programs, which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. **Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759.**

**When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.**

2. Claims 20-27 are rejected because of dependency on claim 19.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6, 9-10, 15, 18-19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uesugi U.S. Patent 6,965,639 B2.

Regarding claim 1, Uesugi discusses a conventional communication apparatus as shown in figure 5.

Uesugi does not explicitly discuss the conventional communication apparatus having a measuring unit as set forth in the application claim.

However, the following discussion would show the conventional communication apparatus including determining sections, which perform an equivalent function of the claimed measuring unit. In column 4 lines 15-65, the communication apparatus of FIG. 5 comprises BPSK determining section 70, QPSK determining section 71, 8PSK determining section 72, 16QAM determining section 73, 64QAM determining section 74, wherein BPSK determining section 70 collects the phase distribution or amplitude distribution of a symbol pattern of the received signal, determines whether these distributions coincide with distribution of the BPSK symbol pattern and outputs the

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determination result to comparison section 75; QPSK determining section 71 collects the phase distribution or amplitude distribution of a symbol pattern of the received signal, determines whether these distributions coincide with distribution of the QPSK symbol pattern and outputs the determination result to comparison section 75; 8PSK determining section 72 collects the phase distribution or amplitude distribution of a symbol pattern of the received signal, determines whether these distributions coincide with distribution of the 8PSK symbol pattern and outputs the determination result to comparison section 75. In view of the aforementioned teachings, because the act of determining the phase distribution or amplitude distribution of a symbol pattern of the received signal coinciding with distribution the symbol patterns would generate error vector, one of ordinary skill in the art at the time the invention was made would have recognized that the combination of BPSK determining section 70, QPSK determining section 71, 8PSK determining section 72, 16PSK determining section 73 and 64QAM determining section 74 correspond to the claimed measuring unit.

Uesugi does not explicitly discuss the conventional communication apparatus performs the comparison with a threshold as set forth in the application claim.

However, referring to FIG. 5, the conventional communication apparatus further shows a comparison section 75 for comparing outputs of the determination results and estimates the modulation method from the result in which the receiving signal symbol pattern is mostly coincide with a symbol pattern of each modulation technique; see column 4 lines 50-65. As common knowledge of one of ordinary skill in the art, because the comparison section 75 compares outputs of the determination results with a

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threshold, one of ordinary skill in the art at the time the invention was made would have recognized that the comparison section 75 performs equivalent function as the claimed comparing unit.

In column 4 lines 55-65, the comparison section 75 carries out the switching between switch 54 and switch 55 from the estimating result of modulation method.

Regarding claim 6, the conventional communication apparatus in FIG. 5 further shows a radio reception section 52 for processing and providing the received signal to the determining sections 70-74.

Regarding claim 9, in column 4 line 60 via column 5 line 5, Uesugi further discusses that the signal transmitted with a transmission technique, which can be selected among all transmission techniques in the conventional apparatus is transmitted to a communication partner.

Regarding claim 10, claim is rejected on the same ground as for claim 1 because of similar scope.

Regarding claim 15, claim is rejected on the same ground as for claim 6 because of similar scope.

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Regarding claim 18, claim is rejected on the same ground as for claim 9 because of similar scope.

Regarding claim 19, claim is rejected on the same ground as for claim 1 because of similar scope.

Regarding claim 24, claim is rejected on the same ground as for claim 6 because of similar scope.

***Allowable Subject Matter***

4. Claims 2-5, 7-8, 11-14 and 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoshida U.S. Patent 6,452,964 B1 discloses "Adaptive Modulation Method".

Shaffer et al. U.S. Patent 6,236,676 B1 discloses "Intelligent Adaptive Modulation System".

Murakami et al. U.S. Patent Application Publication No. 2002/0017896 A1  
discloses Digital Radio Communication System And Method.

Dent et al. U.S. Patent 6,567,475 B1 discloses "Method And System For The  
Transmission, Reception And Processing Of 4-Level And 8-Level Signaling Symbols".

Meyer U.S. Patent 6,639,952 B1 discloses "Demodulator Synchronization Loop  
Lock-In Detection Circuit".

6. Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Khanh Tran whose telephone number is 571-272-3007.  
The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the  
organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the  
Patent Application Information Retrieval (PAIR) system. Status information for  
published applications may be obtained from either Private PAIR or Public PAIR.  
Status information for unpublished applications is available through Private PAIR only.  
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should  
you have questions on access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at 866-217-9197 (toll-free).

KCT

*Khanh Tran*

08/24/2006

Primary Examiner

KHANH TRAN